



Welcome to the Town of Marana!

Below you will find the checklists compiled by Marana Water for use by design engineers involved with the preparation of **sewer** improvement plans for the Town. Use of the following checklists will expedite and simplify the review process.

If you have any questions please contact Marana Water using the contact information below.

We look forward to working with you!

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Sewer Improvement Plan Checklist

APPLICABLE REFERENCES FOR PUBLIC SEWER DESIGN AND CONSTRUCTION:

1. Marana Sewer Development Guidelines and Sewer Information:
[Water Plan Requirements - Town of Marana, AZ](#)
2. Pima County Design Standards:
[53b16df4-6d69-4240-884b-45a982650562 \(civicplus.com\)](#)
3. Pima County Specifications and Details:
[82db6816-17b9-4383-8c2e-591b24dd23f4 \(civicplus.com\)](#)
4. Pima County RWRD Customer Advisory Information:
www.pima.gov/wastewaterreclamation
5. Arizona Administrative Code, Title 18, Chapters 5 and 9
6. Pima County Code of Ordinances, Title 13 - Public Services, Division II – Sewers
7. Pima County Preliminary Sewer layout Requirements:
[RWRD Preliminary Sewer Layout Pima County, AZ](#)
8. Pima County Public Sewer Formatting Standards
(link below) as modified in the checklist below:
[072c29fc-7900-4736-a287-954c2698880f \(civicplus.com\)](#)
9. RWRD Sewer Improvement Plan & Construction Permit (Public) (Reference only):
[RWRD Sewer Improvement Plan & Construction Permit | Pima County, AZ](#)
10. ADEQ Sewer Approval (Private, Marana & Sahuarita) (Reference only):
[ADEQ Sewer Approval \(Private, Marana & Sahuarita\) | Pima County, AZ](#)

Note: All items on this checklist must be addressed. Items not addressed will result in a review comment. This checklist does not have to be submitted with the plans for review.



I. SUBMITTAL ITEMS SECTION (Items to be submitted)	
A	A current copy of the sewer plan with engineer's stamp and signature. Plans shall be sealed by an Arizona Licensed Professional Engineer in accordance with Arizona Board of Technical Registration Rules. (Ref. 8, Sect. 1.1,5) The Engineer's seal shall have no watermark such as "Not for Construction". Plans without Engineer's stamp and signature or having water mark on the seal will be returned without review.
B	Subdivision plat in its most final form, recorded survey, or recorded legal description reflecting current property lines.
C	Improvement plans or site development plan.
D	Special specifications, if required.
E	Separate sewer plans Public and Private Plan for PDEQ permitting.
F	Project phasing: Separate sewer plans for each phase. Each phase shall have its own separate plan for PDEQ permitting.
G	New easement legal descriptions, labeled current ownership and/or recorded legal descriptions for existing easements (submit recorded easement(s) after plan approval), as applicable.
H	Submit a sewer design report with the sewer plan submittal. This is required for the Sewer Hydraulic Modeling. Sewer Report shall include the following as a minimum: title sheet signed, sealed, and date by AZ registered Professional Engineer, Table of Content, general project narrative, sewer main/manhole connection information, Scour Depth calculations for all natural or unimproved wash crossings (if applicable), and a detailed project sewer flow analysis per Arizona Administrative Code Title 18, Chapter 9. Appendix/Exhibits shall include sewer map, calculations in tabular form, and reference to a sewer map. The report shall use san serif font, minimum font size 12 and minimum line spacing 1.5.
I	Engineering submittal for all new Public and Private Sewer Improvement Plans shall include a one-time \$950 for processing Sewer Hydraulic Modeling. Modeling costs will be assessed as pass-through costs to the engineer and due prior to Marana Water issuing a Sewer Capacity Assurance (SCA) letter.
J	Include Marana Sewer General Notes and Standard Details sheet (General Notes and Standard Details) found on the Marana Water website as page 2 in the plan set.
K	Commercial Projects with industrial wastewater: Add note to plan "An Industrial Wastewater Discharge Permit will be required for this project." Application/Questionnaire can be found at: [Town of Marana] IWD APPLICATION (seamlessdocs.com)



II. DESIGN STANDARDS SECTION	
1.	The designer shall use good engineering judgment by following engineering standards of practice, and rely on appropriate engineering methods, calculations, and guidance. (Ref. 5, R-18-9-E301(4.01)(C)(7))
a.	Manholes
1.	Provide MH at phasing boundary for future sewer connection. Use of Cleanout for future sewer connection per RWRD-232 may be allowed at Marana Water Engineering discretion. Main stub-out and clean-out must be labeled "Private".
2.	Ensure manholes are appropriately placed. (Ref. 2, Subsections 5.2.1 and 5.2.4)
3.	Verify manhole spacing conforms to maximum spacings shown in Table 5.2 and all subsections per Ref. 2, Section 5.2.
4.	Manholes located in the vicinity of drainage features require Special Approval. (Ref. 2, Subsection 5.2.4)
5.	Deflection angles at manholes to conform to RWRD requirements included in Table 5.3 (< 90° for 8-inch to 10-inch pipe, and < 60° for pipes larger than 12-inches). (Ref. 2, Subsection 5.2.6)
6.	Manhole diameters shall conform to RWRD requirements shown in Table 5.4. (Ref. 2, Subsection 5.2.7)
7.	Whenever possible, manholes should be located within the paved area of a Right-of-Way or within a Public Sewer easement. (Ref. 2, Subsection 5.2.1)
8.	Verify watertight manhole frames and covers per RWRD-214 are provided at the low point of the street or near the entrance of scupper. (Ref. 2, Subsection 5.2.13)
9.	The placement of manholes in sidewalks, crosswalks, bike trails, wash crossings, back or side yards, behind walls, curb or gutters should be avoided unless approval is obtained from Marana Water. (Ref. 2, Subsection 5.2.1)
10.	Concrete collars shall be provided where manholes are located in unpaved areas. (Ref. 2, Subsection 5.2.12) and (Ref. 3, S.D. RWRD 212)
11.	PVC, Polymer, or other corrosion-proof manholes shall be required for new manholes in the following conditions:
	a. Manholes with pipe diameters of 12-inches and greater
	b. Manholes within 200 feet of a manhole with pipe diameters 12-inches and greater
	c. Force main discharge manhole
	d. Manhole receiving flow from a sewer line with slope greater than 10.00%. (Ref. 2, Subsection 5.2.16)



12.	Verify all-weather vehicular access to all manholes is provided with a stabilized surface. Driving surface horizontal slopes equal or less than 9.0% is required. Longitudinal slopes greater than 6.0% may require additional surface treatment. Cross-slopes shall not exceed 4.0%, except at manholes where they shall be max. 2.0%. (Ref. 2, Subsection 7.1.1) and (Ref. 3, S.D. RWRD-110 and RWRD-111)
13.	Verify 6 feet minimum clearance is provided between outside of water lines and center of manholes. (Ref. 2, Subsection 5.1.8) and (Ref. 3, S.D. RWRD-108)
14.	Marana Water discourages the use of drop-manholes on the sole purpose to reduce sewer main depth. Drop manholes must be approved on a case-by-case basis by Marana Water engineering.
b.	Pipes
1.	Design sewer lines to avoid a slope that creates a sewage velocity less than 2 feet per second (flowing full) or greater than 10 feet per second. Special provisions shall be considered to protect a sanitary sewer system with velocity greater than 10 feet per second. (Ref. 2, Subsection 5.1.3)
2.	Minimum public sewer pipe size shall be 8-inch, unless otherwise approved by the Marana Water Department.
3.	All new sewer line shall be placed along the north and east side of all new streets unless with express permission from Marana Water.
4.	Terminal 8-inch sewer reaches shall have a minimum slope of 1.00%. (Ref. 2, Subsection 5.1.3C and Table 5.1)
5.	Show scour depth and lateral migration on plans (if applicable). (Ref. 2, Subsections 5.1.11, 5.2.11, and Appendix A)
6.	Verify that all parallel sewer and water lines are horizontally separated by at least 6 feet (outside wall to outside wall) or the sewer main shall be constructed of DIPC900 PVC restrained joints. In no case shall a gravity sewer main be located less than 2' horizontally from a water main. (Ref. 3, S.D. RWRD-108)
7.	Sewer mains shall not be designed through drainage basins or within graded side slopes.
c.	Service Laterals (HCS/BCS)
1.	Ensure no HCS/BCS connections into a manhole unless the manhole is in a cul-de-sac/knuckle intersection or adjacent to another the manhole is a terminal MH with no possibility of future extension (Ref. 2, Subsection 5.3.2) and (Ref. 3, S.D. RWRD-402)
2.	6-inch or larger HCS/BCS must connect to public sewer at an existing or new manhole unless Special Approval is obtained from the (Marana Water Department), on a case by case basis. (Ref. 2, Subsection 5.3.2)



3.	A manhole shall be required where a service lateral must connect to a 15-inch or greater diameter public sewer line unless Special Approval from Marana Water Department is obtained. (Ref. 2, Subsection 5.3.34)
4.	Clearly identify by symbol the private backwater valves (BWV) required on any service laterals. Refer to RWRD EDS 2022 Section 5.3.5 for BWV requirements. (Ref. 2, Subsection 5.3.5) and (Ref. 8, Exhibit #3)
5.	Engineer shall review and confirm that all HCS's maintain adequate horizontal and vertical separations at all storm drain crossings.
6.	Identify on the plan any HCS's requiring ductile iron pipe (DIP) or approved equal extra protection, if required.
III. DRAFTING STANDARDS SECTION	
a.	All Sheets
1.	Plans shall be of construction quality drawings that provide overall details of the site and engineered works comprising the project including: plan and profiles for sewer lines, manholes, etc.; including relevant cross sections for key construction components; including applicable drainage features, controls, and erosion protection; and horizontal and vertical location of utilities within the area affected by the sewer line construction. (Ref. 5, R-18-9-E301(4.01)(C)(4))
2.	All construction plans shall be drawn on 24" x 36" sheets with clear and readable print, with a quality to produce legible electronic and microfiche copy. (Ref. 8, Sect. 1.1,1)
3.	The Engineering scale on plan sheets shall have no more than forty feet to the inch, 1" = 40' (horizontal), 1" = 4' (vertical where applicable).
4.	Title blocks shall contain the project title and lot numbers to be served. Provide address or the Assessor's Tax ID for single parcels. Sheet index shall include sheet numbers. (Ref. 8, Sect. 1.1,2)
5.	The plan number ENGXXXX-XXX (Ref. 8, Sect. 1.1,4) shall be assigned by Town of Marana in the first submittal. Designate a placeholder for it at the bottom-right corner of all sheets.
6.	Include a Revision Block. (Ref. 8, Sect. 1.1,6)
7.	Manhole numbers shall start from the most downstream manhole and increase upstream; (Ref. 8, Sect. 1.1,7) New manhole numbers (MH ID) and new pipe numbers (Pipe ID) will be assigned by Marana Water Department in the first submittal review
8.	Add Arizona 811 Logo. (Ref. 8, Sect. 1.1,8)



9.	North arrow shall be provided on all maps and plan views, preferably on the upper right corner of the plan view. (Ref. 8, Sect. 1.1,9), including numeric and bar scale. North arrow shall point to the top of the sheet for the overall sewer map. North arrow shall point either to the top or to the left of the sheet for all other plans. Upside down north arrow is discouraged.
10.	Lettering and symbol size acceptable and legible (1/8" min. in paper space). Line weight thickness shall be a minimum of 0.0075" (0.19 mm) in paper space.
11.	All elevation labels shall be of their full value; abbreviated elevation is not allowed.
12.	Verify distances, elevations, and other information shown on multiple sheets are consistent with each other.
13.	Avoid text/line/symbol overlapped
14.	Do not show elevation contours (proposed or existing)
15.	Do not show hatching on pavement, sidewalk, building, or other items.
b.	Cover Sheet
1.	Project Title shall include the words "Public Sewer Improvement Plan," followed by the project name, the subdivision name, and the specific lots to be served. Provide the address or parcel ID if the plan is not for a recorded subdivision. Include the word "offsite" in the project title If the sewer plan does not include any portion of the interior subdivision sewers, which will may covered by a separate plan. (Ref 8, Sect. 1.2,1)
2.	Provide a Location Map at a scale of 3"=1 mile with proposed development highlighted, adjacent platted subdivisions called out, major street intersections and section(s), township(s) and range(s) noted;(Ref. 8, Sect. 1.2,2)
3.	Overall Sewer Map (Key Map) Shall:
	a. Be scaled appropriately to clearly depict the entire project including on-site and adjacent rights-of-way, easements, final street names, and lot numbers;
	b. include the Project boundary, lot lines, and lot numbers with adjacent properties' ownership identified;
	c. include all street names labeled with their permanent and approved names. All new and existing streets must be clearly labeled "Public" or "Private";
	d. Show the location of the sewer lines with pipe size and manholes with manhole numbers. An Overall Sewer Map



	without sewer lines and manholes shall be returned without review.
	e. Show sheet number call outs and sheet cut lines
	f. Be consistent with the most recently approved Tentative Plat, Final Plat, Development Plan, or Preliminary Sewer layout;
	g. Provide the adjacent property tax ID numbers for off-site public sewer easements.
	h. Define the status of the downstream public sewer as being proposed or existing. If the downstream public sewer is "proposed", add a note addressing status of downstream sewer in relation to construction and release of proposed sewer. (Ref. 8, Sect. 1.2,3)
	i. Show the proposed sewer and manholes of all future phases for reference. These shall be screened back.
	j. Show the Basis of Bearing (horizontal control).
	k. Show and describe the benchmark elevation (vertical control). Elevations shall be NAVD 88 datum. For future phases of existing master planned communities having significant planning and design efforts established in NGVD 29 or other datum, the established datum may be allowed on a case-by-case basis. In these cases, a conversion equation from the established datum to NAVD 88 datum shall also be provided, preferably on every sheet. (Ref. 8, Sect. 1.2,5)
	l. Identify lots requiring backwater valves unless this information is provided in a list on the cover sheet. (Ref. 8, Sect. 1.2,6)
4.	Provide Reference project numbers in the lower right corner of the page including. These should include, but not be limited to the Preliminary Sewer Layout, Tentative Plat, and Final Plat. (Ref. 8, Sect. 1.2,8)
5.	Include a "Sheet Index" containing sheet numbers and corresponding sheet subtitles used in the plans. (Ref. 8, Sect. 1.2,9A)



6.	<p>Include the As-built certification statement as shown: (Ref. 8, Sect. 1.2,10)</p> <p><u>AS-BUILT CERTIFICATION:</u> I HEREBY CERTIFY THAT THE “AS-BUILT” ANNOTATIONS PROVIDED ON THIS DRAWING WERE BASED ON AS-BUILT SURVEY CONDUCTED UNDER MY SUPERVISION AND ACCURATELY DEPICTS EXISTING FIELD CONDITIONS TO THE BEST OF MY KNOWLEDGE AND BELIEF.</p> <hr/> <p>REGISTERED LAND SURVEYOR</p> <hr/> <p>REGISTRATION NUMBER EXPIRES</p>
7.	Include the owner/developer's name and/or consultant's logo, address, phone number, and e-mail address. (Ref. 8, Sect. 1.2,11)
8.	Include the Engineering Firm's name, address, phone number and email address
9.	Locate the Town of Marana-provided plan number (ENGXXXX-XXX) in the bottom-right corner. Designate a placeholder for it in the first submittal. (Ref. 8, Sect. 1.1,12)
10.	Include a table of quantities for all pipe sizes, materials, and new manholes (services not included).
11.	Include a List of Abbreviations used on the plans. Do not include abbreviations that are not applicable in this project.
c.	Legend and General Note Sheet
1.	The legend is a list containing symbols and corresponding features used on the plans, and shall include:
	a. All symbols used on the plans for this project
	b. Use only symbols that are in the Legend section
2.	General Sewer Notes for subdivisions and development projects can be found on Pima County Regional Wastewater Reclamation Department's website. (Ref. 8, Sect. 1.3,2) & Marana Water General Sewer Notes found on the Sewer Design Criteria & Engineering Information Sheet
3.	Provide special details (if applicable)
4.	Provide Typical Street cross-sections with all proposed utilities shown with dimensions from centerline.
5.	The plan set shall include the RWRD 104 trenching and bedding detail.



6.	Provide as-built HCS tables on plan & profile sheets or separate sewer detail sheet. Tables shall be left blank and completed during preparation of the as-built plans. (Ref. 8, Sect. 1.4,11 and Exhibit #5) MH As Built Table shall consists of 5 columns: MH_ID, NORTHING, EASTING, RIM_EL, INV_EL.
d.	Plan and Profile Sheets
i.	Plan views shall contain the following:
1.	Provide Sheet Index Map on every Sewer Plan and/or Profile Sheet. The sheet index plan scale will vary depending on the scope of the project.
2.	Show and label existing sewer lines and force mains with Marana Water Department's plan tracking number (ENGXXXX-XXX or S-XXXX-XXX), pipe diameter and pipe material. Include a minimum of two adjacent existing manholes labeled with the full Marana manhole number. (Ref. 2, Subsection 4.2)
3.	Show all existing and proposed structures over, under, or near public sewers. (Ref. 8, Sect. 114,1L)
4.	Show all existing utilities. (Ref. 8, Sect. 1.4,1M)
5.	Show proposed and adjacent right-of-way full width shown, w/ street names labeled "PUBLIC" or "PRIVATE". (Ref. 8, Sect. 1.4,1B)
6.	Show new and existing sewer directional flow arrows on all sewer mains. (Ref. 8, Sect. 1.4,1C)
7.	Within a right-of-way, the sewer alignment shall be described using bearings, coordinates, and/or calculated stationing in combination with calculated right angle dimensional ties to the street construction centerline. (Ref. 8, Sect. 1.4,1D)
8.	Dimension from section lines, survey control lines, property lines and/or easement boundaries to all new sewers to the nearest tenth of a foot. (Ref. 8, Sect. 1.4,1E)
9.	Ensure that the lots and numbering are consistent with the cover sheet. (Ref. 8, Sect. 1.4,9)
10.	New sewer lines shall be tied down at a known permanent point such as street monument or property pin with dimension ties. (Ref. 8, Sect. 1.4,1)
11.	Provide station equations when manholes are shown in different stationing alignments. (Ref. 8, Sect. 1.4,1G)
12.	Provide stationing at the center line of all road alignments.
13.	Dimension new manholes constructed over existing sewer lines to downstream and upstream manholes. (Ref. 8, Sect. 1.4,1H)



14.	Show and label all new and existing service laterals (HCS/BCS). Locate all laterals by stationing or dimensioning to the nearest property corner to the nearest foot. (Ref. 8, Sect. 1.4,1I)
15.	Show existing manhole (Marana Water) numbers with Plan Number. (Ref. 8, Sect. 1.4,1K)
16.	Show separation of manholes from pavement items (e.g., curbs and gutters, survey monuments, and speed bumps). (Ref. 2, Subsection 5.2.3)
17.	Dimension horizontal separation between parallel sewer and water to the nearest tenth of a foot. (Ref. 8, Sect. 1.4,1O)
18.	Coordinates and/or bearings and distances will be utilized to define the horizontal position of the proposed main line sewer in all instances where main is located in easement and outside of a public road right-of-way. (Ref. 8, Sect. 1.4,1P)
19.	All new sewer system shall have a line weight of 1.0 mm in paper space.
20.	Provide drainage flow arrows in plan view. (Ref. 8, Sect. 1.4,1R)
21.	Call-out the typical street/roadway cross section detail including underground utilities on every plan sheet. (Ref. 8, Sect. 1.4,1S)
22.	Show all areas of pavement replacement according to the Standard Details of the applicable agency or jurisdiction. (Ref. 8, Sect. 1.4,1T)
23.	Indicate horizontal and vertical scales. Include contour interval if applicable. (Ref. 8, Sect. 1.4,1U)
24.	Where adjacent drainage ways or washes are in possible conflict with, or could have a future negative impact upon the proposed sewer line, special details such as enlarged profiles, plotting the flow line invert elevation of the adjacent wash on the sewer design profile or related cross sections may be required on the construction plans by the reviewing agency. Attention must be given to local run-off conditions where flood damage to the line may occur, or where run-off may be diverted onto contiguous private property. (Ref. 8, Sect. 1.4,6)
ii.	Profile views shall contain the following:
1.	New sewer pipe diameters. (Ref. 8, Sect. 1.4,2A)
2.	New sewer pipe material. (Ref. 8, Sect. 1.4,2B)
3.	New and existing manhole numbers. (Ref. 8, Sect. 1.4,2E & 2F)
4.	Label on top of the pipe, each sewer reach with pipe diameter, material and length measured between center of MHs (to nearest hundredth of a foot). Also, below the pipe and in parenthesis, show the pipe length measured from the inside face of the opposing manholes and calculated slope using this actual pipe length. For



	example, with 4' diameter manhole: Length Distance= 350.00 ft (Pipe Length = 346.00 ft, 8" PVC @ S = 1.00%). (Ref. 2, Subsection 5.1.3B) and (Ref. 8, Sects. 1.4,2C and 1.4,2D)
5.	New manhole rim elevations to the nearest hundredth of a foot, show the elevation on top of the manholes. (Ref. 8, Sect. 1.4,2G)
6.	New and existing manhole inverts to the nearest hundredth of a foot, show elevation(s) vertically at the base of the manholes. (Ref. 8, Sect. 1.4,2H)
7.	Manhole drops shall conform to Table 5.5. (Ref. 2, Subsection 5.2.9)
8.	Match top of pipe (crown) elevations on pipe size changes (minimum required manhole invert drops shall be met). (Ref. 2, Subsection 5.2.9)
9.	Identify the invert direction if there is more than one invert per manhole. (Ref. 8, Sect. 1.4,2I)
10.	Verify all slopes are accurate to 0.01% and conform to the minimum design slopes. (Ref. 2, Subsection 5.1.3C and Table 5.1)
11.	Show invert/top elevations for both, water AND sewer at ALL water/sewer crossings and dimension the pipes separation. Dimension vertical separation between sewer and water (outside diameters) to the nearest tenth of a foot. (Ref. 8, Sect. 1.4,2L) and (Ref. 3, S.D. RWRD-108)
12.	For sewer lines crossing under water lines, verify all water/sewer crossings have vertical clearance of no less than 2.00 feet. If not, use alternate material as accepted by PDEQ and Town of Marana. DIP is no longer accepted. (Ref. 3, S.D. RWRD-108)
13.	For sewer lines crossing over water lines, verify sewer is C900 PVC with restrained joint for the entire length and a minimum 2.00 feet vertical clearance is provided. (Ref. 3, S.D. RWRD-108)
14.	Use only one pipe material between manholes.
15.	All existing utilities and drainage improvements. Include material and sizes. Dimension vertical separation (outside to outside) to the nearest tenth of a foot. (Ref. 8, Sect. 1.4,2K)
16.	Show finished and existing profile grade along sewer alignment. (Ref. 8, Sect. 1.4,2M)
17.	Verify a minimum 4' cover over sewer main. (Ref. 2, Subsection 5.1.7)
18.	Show and station each appurtenance relevant to the sewer system. (Ref. 8, Sect. 1.4,2N)
19.	Provide drainage Q100, velocity, total scour and water surface elevation (text and graphically) within unpaved areas. (Ref. 2, Appendix A) and (Ref. 8, Sect. 1.4,2O)



20.	If sewer plans include both public and private sewers, label sewers as public or private. (Ref. 8, Sect. 1.4,8)
21.	Show and label all areas requiring fill: "Fill and compact to 95% of maximum dry density prior to trenching (typ.) or per Soil Engineer's Recommendation". (Ref. 2, Subsection 3.1.3)
iii.	Point(s) of Connection
1.	Show location and method of connection to existing public sewer. Identify the point of connection to existing downstream manhole number, invert elevation, plan number, northing and easting coordinates, and block out alignment. Invert elevations of existing manholes shall be from current survey information, referenced to the project basis of elevation. (Ref. 8, Sect. 1.4,4)
2.	Manhole Connections
	a. If connecting to an existing manhole block-out (same size), add note: "Remove block-out and connect.";
	b. If connecting to an existing manhole without block-out; add note: "Connect _" sewer to Existing Manhole per RWRD 300/301." (Ref. 3, S.D. RWRD-300 or 301)
	c. If connecting to an existing sewer main with a new manhole; add note: "Connect to Existing _" Sewer Main with New Manhole per RWRD 303." (Ref. 3, S.D. RWRD-303)
3.	If connecting to an existing sewer main having a Temporary Cleanout for Phased Projects; add note: "Remove existing 45° Wye and cleanout. Connect _" sewer to existing sewer main. Sewer main extension shall be constructed with same pipe size and at same slope as the connection main." (Ref. 3, RWRD 232)
4.	Add the following note to the outlet of first proposed manhole upstream of existing sewer, "Install temporary plug and secure with a chain or cable to a manhole step. Plug to include contractor's company name. The plug to be removed after PDEQ/ADEQ's Discharge Authorization and post paving inspection as directed by the Field Engineering inspector." Locate the plug downstream of ALL proposed service laterals. (Ref. 6, Subsection 13.20.035 C)
5.	Add the following note to point of connection: "Contractor shall field verify existing invert elevation(s) prior to start of public sewer construction". (Ref. 6, Subsection 13.20.500)
IV.	Dedicated Sewer Easements and Accessibility
1.	Note: "Easements" are replaced with the term "Lease" on state land and "Use Agreement" on tribal land.
2.	Verify that all sewers are within a public Right-of-Way or Public Sewer Easement. (Ref. 6, Subsection 13.20.250) and (Ref. 2, Subsection 5.1.1)



3.	Show and call out stabilized surface to each public sewer manhole. (Ref. 3, S.D. RWRD-111)
4.	Verify conformance to the minimum width of each public sewer easement. (Ref. 2, Subsection 7.1) and
5.	Verify the inner and outer return radii for all turns are at least 35 feet and 55 feet respectively (including turnarounds for one-way access). (Ref. 2, Subsection 7.1) and (Ref. 3, S.D. RWRD-109)
6.	Label public sewer easements granted by final plat as "XX' PUBLIC SEWER EASEMENT BY FINAL PLAT, RECORDED IN SEQ. #_____". (Ref. 2, Subsection 7.2)
7.	Label existing easements NOT granted by final plat: "EXISTING XX' PUBLIC SEWER EASEMENT DKT XX, PG XXX" or "SEQUENCE #". (Ref. 2, Subsection 7.2)
8.	Label new easements NOT granted by final plat: "PROPOSED XX' PUBLIC SEWER EASEMENT BY SEPARATE INSTRUMENT. "SEQUENCE #", the easement shall be recorded and the Sequence # included before approval of the Sewer Improvement Plan. (Ref. 2, Subsection 7.2)
9.	For easements dedicated by separate instrument: Include with the submittal the legal description of the public sewer easement, an 8½" x 11" drawing, sealed/signed/dated by an RLS for review and processing. Drawing shall be a clear and accurate depiction of the easement description and shall show all bearings, distances, and curve data. (Ref. 2, Subsection 7.2)